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Composite Safety

SAFETY TALKS TOOLKIT

The materials most commonly used in composite manufacture are: resins, catalysts, and strengthening materials (fiberglass, Kevlar, Scorefoam). Polyester, vinylester, and epoxy are the most commonly used resins today with the catalysts being either Methyl Ethyl Ketone Peroxide (MEKP), Benzoil Peroxide, or an epoxy Part B catalyst (depending on the system used). Fiberglass, carbon fiber, Kevlar and Scorefoam are the most commonly used strengthening materials. Depending on the use of the material, they all produce various hazards.

The hazards commonly experienced with these types of materials are: overexposure to vapors, inhalation of particulate fiber, industrial dermatitis (rashes, irritation, and other skin disorders) and the potential for severe eye injury with catalysts and by flying particles from grinding composite materials. It is extremely important to use safety glasses, at a minimum, when using catalysts and when grinding composite material.

The majority of these hazards can be controlled by using the proper personal protective equipment (PPE) for the chemicals and materials you are using. The following is a short guide on the use of PPE and when they should be in use. Consult the Material Safety Data Sheet MSDS on the particular chemical for the proper PPE you should wear and have your supervisor explain the use and care of the specific personal protective equipment needed.

When grinding or sanding any composite material, a quality respirator rated for the task must be worn. Many composite materials have glass, carbon, or Kevlar strands that, when ground, will produce an airborne respiratory contaminate. This dust, when inhaled, can be irritating and potentially damaging to the respiratory system.

When you recognize the inherent hazards of composite materials, you can better equip yourself for protection. Ask your supervisor if you have any questions regarding the chemicals or materials you work with and the best way to protect yourself while using them.

	RESIN (Epoxy, vinylester, polyester)	**CATALYSTS** (Methyl Ethyl Ketone Peroxide), Benzoil Peroxide	**MATERIALS** (Fiberglass, Kevlar, carbon fiber, and Scorefoam)
EYE PROTECTION	Safety glasses	Safety Glasses/Face Shield	Safety Glasses
GLOVES	Butyl, nitrile, high quality latex	Butyl, nitrile, high quality latex	High quality latex
GARMENTS	Tyvek or coveralls	Tyvek or coveralls	Coveralls / Tyvek
RESPIRATORS	Half-mask – organic filter	Half-mask – organic filter	Half-mask - Dust